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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/325,418	06/04/1999	KATSUAKI YAMANOI	Q54672	2787

7590 12/23/2003

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EXAMINER	
CHU, KIM KWOK	

ART UNIT	PAPER NUMBER
2653	18

DATE MAILED: 12/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/325,418	Applicant(s) YAMANOI ET AL.	
	Examiner Kim-Kwok CHU	Art Unit 2653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *Amendment filed on 9/22/03 (paper 17)*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *6,7 and 10-19* is/are allowed.

6)☒ Claim(s) *1-5,8,9 and 20-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *7/16/02 (paper 7)* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

Response to Remarks

1. Applicant's Remarks filed on September 22, 2003 have been fully considered.

(a) Applicant states that the parity check disclosed by the prior art of Ottesen does not determined if one of at least two recorded data is a valid data as required by claim 1 (page 16 of the Remarks, last 3 lines). Furthermore, Applicant states that Ottesen's parity checks are not performed during recording (page 17, first 3 lines). Accordingly, the feature of "a valid data during recording" as stated in claim 1 can be considered as data being encoded with a sector address and error correction coding. Therefore, the claimed feature "a decision determining the data as valid data during the recording" can be interpreted as a process of recording an encoded data at a correct address because data encoding and tracking is a decision operation.

(b) a new prior art of Takagi is cited to indicate the decision process of a data is encoded with an address.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> *(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.*

3. Claims 1, 20, 22, 24, 26, 28 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ottesen (U.S. Patent 5,463,758) in view of Furukawa et al. (U.S. Patent 5,315,578) and Takagi et al. U.S. Patent 4,695,993).

Ottesen teaches an information recording unit very similar to that of the instant invention. For example, Ottesen teaches the following:

(a) as in claim 1, a memory 70 for storing data provided for recording (Fig. 3; column 3, lines 53-55);

(b) as in claim 1, a record device for recording the data stored in the memory 70 on to recording media 74 and 75 (Fig. 4);

(c) as in claim 1, the data being recorded in at least two different areas on the record media (Fig. 4, column 4, lines 17-21);

(d) as in claim 1, the data is a valid data during the recording of the data on the record media 74 and 75 (Fig. 3; column 3, lines 60-65; a valid data is a data encoded with sector ID and parity during recording);

(e) as in claim 20, the valid data is able to be used as a recorded data (Fig. 3; column 3, lines 60-65; two copies of data are recorded for redundancy).

(f) as in claim 22, the valid data is selected as data to be reproduced (Fig. 3; column 3, lines 60-65; one copy of data is recorded as a redundancy and the other one is used to reproduce the valid data);

(g) as in claim 24, the other one of the at least two data recorded in the different areas on the recording media, which is not detected as the valid data by the decision device, is not used during a reproduction operation (Fig. 3; column 3, lines 60-65; one copy of data is recorded as a redundancy and the other one is used to reproduce the valid data); and

(h) as in claim 26, the recording media are discs (Fig. 4).

However, Ottesen does not teach the following:

(a) as in claim 1, a decision device for determining the data as valid data during the recording of the data on the record medium;

(b) as in claim 1, the data is recorded in a recording medium;

(c) as in claim 28, the disc is an optical disk; and

(d) as in claim 30, the disc is a mini-disc.

Takagi teaches a data 16 which is recorded with a write address (Fig. 2; column 3, lines 8-16).

Furukawa teaches an optical min-disc (compact size) where the same data is repeatedly recorded (Figs. 1, 2a and 2b; column 1, lines 32-35).

Recording a data on a recording medium involves a decision operation such as determining/calculating the location (tracking) of the medium with a valid data which is properly addressed. Although Ottesen does not teach the above decision process, however, for the advantage of recording data according to an assigned address, it would have been obvious to one of ordinary skill in the art to encode Ottesen's data with address information such as Takigi's, because the encoded data can be recorded and accessed without error.

On the other hand, with respect to the claimed feature of a single recording medium where a data is recorded in at least two areas on the medium, this redundancy of recording data is not limited to magnetic media such as Ottesen. For the advantage of distributing the information recorded in a single medium instead of two recording media such as Ottesen's, it

would have been obvious to one of ordinary skill in the art to use an optical recording medium such as Furukawa's when redundant data such as Ottesen's is recorded, because the optical recording medium is in form of a single removable min-size disc.

4. Claims 2-5, 8, 9, 21, 23, 25 27, 29 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ottesen (U.S. Patent 5,463,758) in view of Furukawa et al. (U.S. Patent 5,315,578) and Takagi et al. U.S. Patent 4,695,993).

Ottesen teaches an information recording unit very similar to that of the instant invention. For example, Ottesen teaches the following:

(a) as in claim 2, a memory 70 for storing data provided for recording (Fig. 3);

(b) as in claim 2, a record device for intermittently recording the stored data in the memory 70 onto recording media 74 and 75 (Fig. 4);

(c) as in claim 2, a valid-data decision device 82 for determining whether the recorded data is valid (Fig. 3; a valid data is a data encoded with sector ID and parity during recording);

(d) as in claim 2, the data being recorded in at least two different areas on the recording media 74 and 75 (Fig. 4, column 4, lines 17-21);

(e) as in claim 2, the valid-data decision device 82 determines one valid data among the recorded data of the different areas A1 and A0 on the record media 74 and 75 as valid data during the recording of the data on the recording media 74 and 75 (Fig. 3; column 3, lines 60-65);

(f) as in claim 3, a record control device 64 for controlling the record device, wherein the record control device 64 provides a control command for the record device to record a predetermined quantity of data stored in the memory 70 at a first recording location A1 on the recording media 74 and 75 and also provides a control command for the record device to read the predetermined quantity of data at a second recording location A0 different from the first recording location A1 after the predetermined quantity of data is recorded at the first recording location A1 (Fig. 4);

(g) as in claim 4, a blank area search device for searching a blank area on the record media 74 and 75, wherein the first recording location A1 has a predetermined address of a blank area searched by the blank area search device, and the second recording location A0 has an address different from the predetermined address of the searched blank area (Fig. 4; blank

area on the recording media is a non-recorded block/zone. Therefore, searching addresses of blocks/zones which are not yet occupied is a necessary requirement for a typical recording process);

(h) as in claim 5, a data update device for updating data address information recorded in a control area (header) on the record media 74 and 75 for controlling data addresses, wherein the data update device updates a data address of which data has been decided to be valid by the valid-data decision device (Fig. 8, steps 322 and 318);

(i) as in claim 8, the data update device updates a data address in a control area on the record media 74 and 75 so that the data address becomes blank when the valid-data decision device has determined that data corresponding to the data address is not valid (Fig. 8; steps 322 and 318 update blank addresses);

(j) as in claim 9, the record device continues recording into the first recording location A1 until the remaining data quantity in the memory reaches a predetermined quantity (Fig. 4);

(k) as in claim 9, the recording device continues recording into the second recording location A0 until the record device has recorded data originally identical with the

data that has been recorded into the first recording location A1 (Fig. 4, mirrored filed recording process);

(l) as in claim 21, the valid data is able to be used as a recorded data (Fig. 3; column 3, lines 60-65; two copies of data are recorded for redundancy);

(m) as in claim 23, the valid data is selected as data to be reproduced (Fig. 3; column 3, lines 60-65; one copy of data is recorded as a redundancy and the other one is used to reproduce the valid data);

(n) as in claim 25, the other one of the at least two data recorded in the different areas on the recording media, which is not detected as the valid data by the decision device, is not used during a reproduction operation (Fig. 3; column 3, lines 60-65; one copy of data is recorded as a redundancy and the other one is used to reproduce the valid data); and

(o) as in claim 27, the recording media are discs (Fig. 4).

However, Ottesen does not teach the following:

(a) as in claim 2, a decision device for determining the data as valid data during the recording of the data on the record medium;

(b) as in claim 2, the data is recorded in a recording medium;

(c) as in claim 29, the disc is an optical disk; and

(d) as in claim 31, the disc is a mini-disc.

Takagi teaches a data 16 which is recorded with a write address (Fig. 2; column 3, lines 8-16).

Furukawa teaches an optical min-disc (compact size) where the same data is repeatedly recorded (Figs. 1, 2a and 2b; column 1, lines 32-35).

Recording a data on a recording medium involves a decision operation such as determining/calculating the location (tracking) of the medium with a valid data which is properly addressed. Although Ottesen does not teach the above decision process, however, for the advantage of recording data according to an assigned address, it would have been obvious to one of ordinary skill in the art to encode Ottesen's data with address information such as Takigi's, because the encoded data can be recorded and accessed without error.

On the other hand, with respect to the claimed feature of a single recording medium where a data is recorded in at least two areas on the medium, this redundancy of recording data is not limited to magnetic media such as Ottesen. For the advantage of distributing the information recorded in a single medium instead of two recording media such as Ottesen's, it would have been obvious to one of ordinary skill in the art to use an optical recording medium such as Furukawa's when redundant data such as Ottesen's is recorded, because the

optical recording medium is in form of a single removable min-size disc.

Allowable Subject Matter

5. Claims 6, 7 and 10-19 are allowable over prior art.

6. The following is an Examiner's statement of reasons for the indication of allowable subject matter:

As in claims 6, 7, 14, 18 and 19, the prior art of record fails to teach or fairly suggest a recording unit having a vibration/servo detection device. The recording unit has a record device where data is recorded in at least two different areas. In addition, a valid-data decision device for determining whether the data is valid according to the flags stored by first and second storage devices. The first storage device stores a first flag indicating the occurrence of a vibration in relation to a predetermined address. The second storage device stores a second flag in relation to another predetermined address so as to indicate the decision of the valid-data decision device.

As in claims 10, 11 and 15, the prior art of record fails to teach or fairly suggest a recording unit where data is recorded four times and a valid-data decision device for determining whether the data is valid based on a result of a

disturbing vibration during each of the four recording operations.

The features indicated above, in combination with the other elements of the claims, are not anticipated by, nor made obvious over, the prior art of record.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Kulakowski et al. (5,233,584) is pertinent because Kulakowski teaches an optical disc having redundant sector ID.

Konishi et al. (6,163,521) is pertinent because Konishi teaches an optical disk having a second zone for redundant recording.

8. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks Washington, D.C. 20231 Or faxed to:

(703) 872-9306 (for formal communications intended for entry. Or:

(703) 746-6909, (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2021 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-4700.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kim CHU whose telephone number is (703) 305-3032 between 9:30 am to 6:00 pm, Monday to Friday.

KC 12/15/03

Kim-Kwok CHU
Examiner AU2653
December 15, 2003

(703) 305-3032